The i Frame

General Meeting Announcement

When: Saturday, October 31, 1992 at 12:00 pm

Where: Dana Jr High School
135th and Avaition Blvd
Hawthorne, CA

Why: To elect officers and vote on bylaws changes
(Please see the enclosed agenda)

Please plan to attend this very important meeting. It is only through the participation of many that we can continue to pursue our goals. We will be taking memberships ($5.00 per year for person or club) from 11:00 am until the start of the meeting.

HF Packet STA News
by John A. Lind, KD7XG

During the recent ARRL National Convention, some important events occurred regarding the HF Packet STA and ARRL action on a proposal for rule-making to go to the FCC.

1. At 9:00 P.M. on Friday, 21 August, a meeting was called by the ARRL Southwestern Division Director regarding HF automatic digital HF. This meeting included several members of the ARRL Digital Committee, several key members of the ARRL Headquarters Staff, and several HF Packet STA members from the Southwestern Division. The following are the callsigns of everyone I recorded as being present (with apology for any omissions, messed up names or calls):

WA6WZO: Fried Heyn,   ARRL Southwestern Div Director
W6XD: Art Goddard,   ARRL Southwestern Div Asst. Dir.
W6IWO: Dale Sinner,   ARRL Digital Committee
W5TOO: Ed Juge,   ARRL Digital Committee
WA8DRZ: Craig McCartney, ARRL Digital Committee
KY1T: Luck Hurder,   ARRL Hq Staff
KA1CV: Ed Hare,   ARRL Hq Staff
KE3Z: Jon Bloom,   ARRL Hq Staff
WA7GXD: Lyle Johnson,   former TAPR BoD
W6MCV: Ken Edwards,   HF Packet STA
AA6TN: Terry Neal,   HF Packet STA
KD7XG: John Lind,   HF Packet STA

[Note: This meeting was not advertised in advance, however a number of others were present (nobody was turned away) as interested parties and observers to the process -- who were able to add comment at the end.]

2. The purpose of this meeting was to seek, if possible, a solution more acceptable to the packet community than the current ARRL proposal for rule-making (which was approved by the ARRL BoD in July).

3. The meeting ran over three hours (past midnight) and hammered out an alternative that would allow automatic, unattended operation. It would be inappropriate here to list the details of that alternative for reasons that will be evident later. This proposal was taken by Fried Heyn, the SWD Director, into an ARRL Executive Committee and Board of Directors meeting early the next morning. Among the Division Directors, all were present except one (14 of 15) at this meeting. Included were two "fall-back" positions in the event some of the more controversial points in the initial one became totally unacceptable.

4. While the proposal itself was not "adopted" or "accepted" at the Exec. Comm./BoD meeting, the "process" used the night before was accepted. While I am still awaiting a printed copy of the exact minutes of this meeting (it could not be printed at the time), the essence of the outcome is:

a. The ARRL is sponsoring a meeting including five of HF packet STA members to hammer out an alternative in the same manner as the the the SWD meeting at 9:00 PM the night before. This meeting is to be held on Saturday, 26 September, at the Dallas-Fort Worth Marriott. The five STA members were selected by ballots cast by the packet STA participants. Of 54 ballots cast, 44 names were listed. The top five (all of whom will be going to the Dallas conference) are:

W3IWI Dr. Tom Clark Maryland
W0RLI Hank Oredson Oregon
WA0CQG Carl Estey   Minnesota
KD7XG John Lind   California
AD8I   Joe Subich   Ohio

Fortunately, all five are members of the current INTERNET HF Packet working group.

b. This meeting allows representation of HF Packet STA members on a national level, additional data-gathering by ARRL Staff/Digital Committee and the HF STA members.

c. The "ball is in our court". It is up to the HF STA members to provide the basis for a WORKABLE solution.

d. It is NOT too late for the BoD to reconsider and change its original decision in July this year.

5. I have already been in continuous contact with several key members of the HF Packet STA (Hank Oredson, W0RLI and Tom Clark, W3IWI) and communication is ongoing in an ad-hoc working group of additional HF STA Stations on INTERNET. In addition, our own survey was conducted by Carl, WA0CQG, of all the HF STA stations and its results are currently being tabulated. Listed in the order that would be used in "The Callbook", the current INTERNET HF Packet Working Group is (not all are STA stations):

KB1PJ Dr. David Speltz, MD (AMTOR STA)
W3IWI Dr. Tom Clark, PhD (Packet STA)
AA4RE Roy Engenhausen (AA4RE BBS software)
W5XO   Dennis Ely (Packet STA)
WA7GXD Lyle Johnson (former TAPR BoD)
KD7XG   John Lind (Packet STA and XGBBS BBS software)
W8AKF Mike Baugh (Packet STA)
AD8I   Joe Subich (Packet STA)
WA0CQG Carl Estey (Packet STA)
W0IUQ Dr. Wynn Calvert, PhD
WA0JRT Barry Buelow

W0RLI Hank Oredson (Packet STA and W0RLI BBS software)

VE3GYQ Dr. David Toth, MD (TAPR Exec VP)

6. A special thanks to all who participated at the meeting and to everyone who let WA6WZO, Fried Heyn (the SWD Director) know that we NEEDED to DO something to change the ARRL proposal, and to Fried Heyn himself for arranging the meeting. We now have the opportunity for a different outcome than we had previous to the ARRL National Convention and we (the STA Stations) need to make the best practical use of this opportunity.

7. A special thanks also to everyone who has participated in, or facilitated the operation of, the INTERNET HF Packet working group. Several unsung heroes have worked hard in the background to set it up and keep it running. The ones I am aware of are:

WB6CYT Brian Kantor
KB5MU   Paul Williamson
N6ARE   Julian Macassey
WA6FWI Jeff Angus
WD6CMU Eric Williams

I know there are others that have helped as well -- these are the ones I know about. More bulletins will follow as important events occur, and I plan to post some news from the conference itself. My current INTERNET access now allows me to log in from nearly anywhere in the world (provided there is a phone line).

73's -- John A. Lind,
KD7XG @ KD7XG.#SOCA.CA.USA.NA

The Cellular Concept and Packet Radio
by Frank Anderson, W7ZTA

If you have been reading the messages on N6YN or any of the other SOCAL BBS stations recently you probably have noticed that there has been a concept about packet radio which doesn't seem to be well understood. That concept is the cellular approach to band use. I would like to explain what it is and why it is the best method of accommodating all the users that have to share our available resources.

In Southern California there are 14 channels on two meters allocated by TASMA for packet use. Additionally, there are two repeater pairs used for packet operation. Anyone who checks the activity on any of these channels knows that each is busy most of the time. I receive 15000 to 20000 packets a day on 145.05 at my location in La Crescenta, even though I am shielded from the main part of the LA basin. Packet radio is reported to be the fastest growing interest in ham radio these days, so we can expect even more congestion. Getting more channels allocated to packet radio would be very difficult and time consuming, look at how long it has taken TASMA to free up the channels we were promised several years ago.

The cellular concept is based on a principle called frequency reuse. If each station restricts its coverage to a small area by using low power and low antenna height, stations in different cells could operate on the same frequency without mutual interference. Instead of trying to communicate over long distances by direct connections, local cells would be tied together with nodes which would in turn be interconnected by high-speed trunks on different (probably UHF or microwave) frequencies. Individual user stations would need only to be able to hit their local node. The local node would then direct each packet to the node associated with the destination station. With proper networking techniques throughput would be faster in most cases than a direct connection over the same distances involved. Adjacent cells would use different frequencies selected so as to keep co-channel nodes as far apart and as well isolated from each other as possible. The size of each cell would be determined by geographical factors and number of users. Techniques such as the use of directional antennas and shielding provided by buildings and/or terrain features could be used to advantage in defining the area of a cell.

To implement this concept several changes need to be made to conventional methods. The first is to change the practice of most hams of using as much power and as high an antenna as possible. Unless each station uses no more than the minimum power required to connect to his local node the frequency reuse principle suffers. The second is to change the way nodes are implemented, from a few nodes placed at locations providing wide area coverage to many nodes located in small cells, each with a limited coverage area. Of course, nodes must be able to provide such features as automatic routing and path failure recovery. Commercial data networks are presently technologically way ahead of us in this area. There are, however, many unique problems resulting from of the use of radio instead of wire interconnects. Ham radio operators can advance the state of the art in dealing with these problems. We should do what we can to move toward this technology.

UNDERSTANDING A BBS
by Rick Fearns, K6VE

One of the most frequently encountered frustration of the new packeteer is the process of understanding and using a Bulletin Board System. It is not within the framework of this article to teach you everything you need to know about Packet Bulletin Board systems, but rather to give you sufficient information to enable you to find the information when and where you need it. First of all, you'll need to learn the difference between a personal mailbox and a "full service" BBS. The Westnet BBS system serves our area, as well as much of the southeastern part of the United States, with a system of "interconnected" bulletin boards. All of the Westnet bulletin boards "talk" to each other, and each of their member stations has the ability to forward or receive bulletins and personal mail around the world! IF you aren't sure whether the BBS you connect to is a Westnet BBS, ask the system operator (SYSOP), or try monitoring it for a while. When you connect to a full service Packet Bulletin Board system for the first time, you will be asked to REGISTER. This registration procedure is very important, and generally requires that you answer four basic questions. You will be asked for your name, your QTH (City and State), your zip code (5 digits) and your home BBS. It is extremely important that you select a "full service" BBS for your home BBS, and that you not register more than one BBS as your "home," your mail will probably get lost! After you answer these questions, you will be able to receive as well as send mail on any BBS within the system. Full service BBS's handle B (Bulletin), P (personal) and T (National Traffic System) messages. When you send a message on a full service BBS, your

first instruction should be SB, SP, or ST (send bulletin, send personal, or send traffic). If your message is intended for someone on a different BBS other than the one you're connected to, you will be required to address your message in the appropriate manner. Proper message routing requires the use of a hierarchical address. Basically, it means you must adhere to the protocol that has been agreed upon by the BBS SYSOPS. It's simple, but if you make a mistake, your message may hit the "bit bucket," unless a

REMEMBER THE PACKET VOICE NET!
145.140 down
Mondays at 8:00pm

SYSOP along the way recognizes your mistake and corrects it! An example of a hierarchical address would be:
To: WB9LOZ @ W6PW.#NOCAL.CA.USA.NA
In the above example, your message would automatically be routed to the San Francisco Radio Club's Bulletin Board Station, W6PW. Your message would "sit" there until WB9LOZ checked in to read the mail. Thus, you should either check in to your home BBS on a regular basis, or make arrangements with the SYSOP to forward your mail directly to your personal mailbox.
You may connect to a BBS by using the complete callsign, including the SSID (dash number, if any) or the name of the BBS. Either will work. (i.e., C LABBS or C K6VE-5), but the BBS "name" cannot be used in the address line of your message or as an indication of your home BBS! You must use the callsign, without the SSID, for those applications. Most BBS's contain the same bulletins, so DX'ing to a BBS is not a good idea. It is good operating practice to select a home BBS (you must do this in order to receive messages) that is

closest to your home station. Sending messages is only one function of a packet BBS. A BBS also has files, which contain a lot of useful information. Remember that a BBS is a program run by a computer. All BBS systems contain help files, which explain how to use the service that it provides. SYSOPs (and the people on the SCDCC TUTOR LIST) are prepared to help you. Don't hesitate to ask them about packet radio or how to use the BBS system.

Los Angeles County D.C.S.

The Los Angeles County Disaster Communication Service (LACDCS) packet network has been moving forward. As of this writing, all of the Sheriff's Station in L.A. County that where scheduled for a PACKET station have now been installed. Three of the four 1.2GHz packet repeaters in the network are operational. And the fourth is currently in production (you know... Real Soon Now ;-).
Although the LACDCS network is connected to 'WESTNET', its primary purpose is for DCS/RACES traffic. As such, LACDCS limits the BULLETINS to those sent to: LACDCS, ALLDCS, RACES, ALLLAX and a few others.
All DCS members are urged to register with thier local district stations BBS. Each station in the network is running the 'MSYS' BBS software and is available for use as your HOME BBS. Each station uses its LACDCS three letter abbreviation, ie: Norwalk Station's BBS is NWK and the netrom node is NWK1.
Check your local CELL frequency for the BBS near you.
73's de Mike, WA6FXT (Staff 55)

New Digital Repeater!
by Brian Kantor, WB6CYT 5/05/92

On May 2 we (finally!) installed the new central packet router/switch and Full Duplex Digital Repeater on Otay Mtn. This new equipment should provide improved connectivity and some nice new utilities for packeteers in the San Diego area. The router/switch is node "OTAY", callsign is WB6WLV-10, and its AMPRNET IP address is 44.8.0.100. (The old OTAY:WB6WLV-1 on 145.01 and its associated link, #OTY6M:WB6WLV-6 were removed. They will resurface elsewhere later.)

The FDDR listens on 144.76 and transmits on 145.36 MHz. It is *NOT* a store-and-forward "digipeater", but instead repeats packets in real time. ALL stations using it can take advantage of the nearly collision-free service it offers by setting their radios to listen on 145.36, and transmitting down 600. Some minor adjustment of TXD may be required depending on the radio is use; some radios switch faster than others. Fiddle with yours and see how short you can set it and still get reliable service - the shorter the better. The repeater operates at both 1200 bps (normal TNCs) and at 9600 bps (K9NG, G3RUH, and other compatable modems).

Attached to the repeater is a Gracilis "PackeTen" switch, a high-speed large capacity packet router. It acts much like the Net/Rom nodes most packeteers are familiar with, but also offers TCP/IP routing, a conference bridge, and interprotocol gatewaying. Other ports on the switch are attached to the San Diego Metropolitan internode network, which provides connectivity between several high-level nodes in the county, to the California Intercity Trunk network, which provides connections between San Diego and other Southern California communities, and to a 56,000 bps (56kbit) user/network access port using the GRAPES/WA4DSY high-speed modem on 433.050 MHz.

There are currently a number of low-level digipeaters and other services operating on 144.76 MHz simplex. With the installation of the repeater, the digipeaters will probably be moving to other frequencies where they can be of more service to the San Diego packet community. The other services may remain on the repeater, or may move elsewhere - it's not yet clear what each of the operators of those servers wish to do. Those whose functions (network node, conference bridge, etc) duplicate the repeater's functions can probably be of great service by moving to another channel, whilst those that do not duplicate services might well remain. I expect things will shake out over the next few weeks.

(Remember, there are a few wide-area channels in the 144.91/97/99 region, and five limited-coverage packet channels at 145.61/3/5/7/9. SANDPAC & SCDCC are attempting to help service providers (BBSs, nodes, DX clusters, etc) pick channels that will provide the best service with the least congestion; if you operate such a service and want to move to one of these newer frequencies, you might ask them for suggestions.)

Please let me know about any problems you encounter with the switch. There will undoubtedly be a few things we'll need to straighten out.
Brian   WB6CYT @ WB6CYT

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This newsletter edited by Dan Minear, N6RDK. Any spelling mistakes are my own, and I'll blame them on my computer. Support the SCDCC.
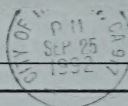
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